

Hand (H. C.)

MALFORMATION OF PULMONIC VALVES; TWO
INSTEAD OF THREE.*

REPORTED BY H. C. HAND, M.D.

In the number of this *Journal* for March, 1873, was reported, by Dr. D. W. Hand, a death from ether. In the account of the autopsy the following description was given of the *Heart*. "Weight, seven and one-half ounces; muscular tissue normal; valves normal, except that in place of three leaflets at the mouth of the pulmonary artery there are only two, which, however, seem sufficient for their purpose."

By the aid of the accompanying plate it is now hoped to make plain exactly in what the mal-formation consists. The depth of each of the two valves of the orifice of the pulmonary artery is equal to one half of an inch; but their lengths are unequal, being for one, one and two-fifth inches, and for the other, one and four-fifth inches. The smaller one varies little from a normal valve except that its *corpus Arantii* is not sharply defined, its *lunulae* are indistinguishable from the general surface of the valve, and its free edge is studded with a few small, hard papillations; the *sinus of Valsalva* is natural in size and appearance.

In the larger valve there is no distinct *corpus Arantii*, but a diffused thickening of the edge of the valve a little to one side of its middle point: *Lunulae*, none. *Sinuses of Valsalva*, two, one somewhat larger than the other. They are separated by a bridle of fibrous tissue which binds the arterial wall and the valve together and extends some two lines upwards from the base of the latter as a prominent, and almost cartilaginous, point; from this point strengthening fasciculi of fibrous tissue radiate to all parts of the valve.

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Malformation of Pulmonic Valves.

Figure I shows the pulmonary artery and right ventricle laid open exhibiting the ventricular aspect of the valves.

Figure II is a view of the heart from above with the valves stretched open, and shows the two *sinuses of Valsalva* behind the large valves, with the fibrous band forming the partition between them.

I desire to express my indebtedness to my friend, R. O. Sweeny, Esq., for the very accurate drawings of this beautiful specimen.

The question arising as to the origin of this mal-formation I must express my opinion in favor of its congenital nature, for the following reasons.

All the other valves of the heart are perfectly smooth and natural showing no evidence of endo-carditis, as would in all probability have been the case if the large valve had been produced by the agglutination of the opposed surfaces of two valves, with the subsequent absorption of the redundant parts; moreover the right side of the heart is but little prone to take on endocardial inflammation. Lastly, if this large valve had originated in inflammatory fusion of two others, other evidences of the inflammation would have been left in roughness and irregularities of its surfaces and edge, which nowhere exists.

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